mean-arterial pressure ($p<0.05$), while values remained stable during TAA. During M4 hemodynamic stability recovered within ten minutes in all animals. The innominate artery was partially occluded in 4 animals in each group (66%), reflected by reduced TTFM ($p<0.05$). There was no periprocedural deterioration of myocardial end cerebral perfusion assessed by FM. Endograft deployment during TAA lasted significantly shorter than in TSA and TFA.
Conclusions: TSA, TFA and TAA to the ascending aorta are feasible in a porcine model. Transient hemodynamic instability in TSA and TFA recovered to near preoperative values. TAA caused less hemodynamic instability.

TCT-826

Does diabetic status impact the outcome of TAVR procedures? Insights from the France2 Registry

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Background: Diabetes mellitus (DM) is involved in aortic stenosis development, with a negative impact on immediate and long term outcome after surgical aortic replacement. Accordingly, while DM is not part of the Euroscore, it has been integrated to the STS score. The impact of DM on post transcatheter aortic valve replacement (TAVR) outcome is unknown.
Methods: 3195 consecutive patients were enrolled between January 2010 and October 2011 in 33 centers. Before discharge, a perivalvular AR grade ≥ 2 by transthoracic echocardiography was considered significant. Mean follow-up was 302 ± 164 days.
Results: 25.8% of the population had DM. Compared to non-DM patients, DM patients were younger (81.0 ± 6.7 vs 83.3 ± 7.3 years, $p<0.0001$), more likely men (55.3% vs 49.5%, $p=0.005$), with a higher BMI (27.9 ± 5.1 vs 25.4 ± 4.7 kg/m2, $p<0.0001$), a lower LVEF ($52.1\pm13.7\%$ vs $53.5\pm14.3\%$, $p=0.01$) and more comorbidities including: coronary artery disease (56.7% vs 44.9%, $p<0.0001$), history of MI (21.2% vs 14.5%, $p<0.0001$), peripheral arterial disease (26.8% vs 18.7%, $p<0.0001$) or renal failure (12.2% vs 8.4%, $p=0.001$). While the STS score was higher in DM than in non-DM patients (15.6 ± 12.5 vs 13.9 ± 11.8, $p=0.002$), the Euroscore was not different (22.0 ± 14.0 vs 21.9 ± 14.4, $p=0.98$). Balloon-expendable and Self-expendable devices were used in 67.6% and 32.4% of patients. Approaches were transfemoral in 75.4% of cases. These proportions were identical in DM and non-DM patients. Procedural success (96.6% vs 96.9%, $p=0.63$) was similar between DM and non-DM patients. The occurrence of an AR grade ≥ 2 was significantly lower in DM than in non-DM patients (11.0% vs 15.9%, $p=0.001$). By multivariate analysis, DM was independently associated with a lower risk of AR ($p=0.01$). 30-days (8.4% vs 9.8%) and 1-year (18.9% vs 19.0%) mortality was similar in DM and non-DM patients respectively ($p=0.85$), even after adjustment for other risk factors.
Conclusions: Despite the presence of more comorbities, DM does not negatively impact on the procedure and the long-term outcome of TAVR. Our results suggest that, unlike to conventional surgical aortic replacement, DM status should not be included in TAVR procedure related risk calculation.

TCT-827

Interaction Between Perivalvular aortic regurgitation and delivery approach: Impact on clinical outcome after TAVI - Insights from the France 2 Registry

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Background: Significant aortic regurgitation (AR) is observed in 15-20% post-TAVI. The potential interaction between delivery approach, AR and clinical outcome is ill defined. On one hand, non-femoral (NF) delivery approaches (transapical, subclavian) are associated with a better axial control of endoprosthesis delivery and thus may have the potential to decrease the risk of AR. On the other hand, NF approaches are usually restricted to the most severe patients in whom the clinical impact of AR is unclear.
Methods: 2,769 consecutive patients with a successful procedure and a predischarge transthoracic echocardiography (TTE) were enrolled in 33 centers. A perivalvular AR grade≥ 2 by TTE was considered significant.
Results: Mean age was 83 ± 7 years; 49% were female. Balloon-expendable (BE) and Self-expendable (SE) devices had been implanted in 67.6% and 32.4% of patients. Approaches were Femoral in 75.4% or NF in 24.6% (subclavian (5.6%), transapical (17.2%) or trans-aortic (1.8%)). A higher Euroscore was observed in patients treated through a NF rather than a Femoral approach (23.9 ± 14.8 vs 21.1 ± 14.1, $p=0.0001$). Post-procedural TTE showed a peri-valvular AR≥ 2 in 14.9% of cases. As compared to the Femoral approach, NF approaches were associated with a lower risk of perivalvular AR≥ 2 for both BE (8.0% vs 13.9%, $p=0.0005$) and SE (10.7% vs 21.8%, $p=0.001$) devices. Multivariate analysis confirmed NF approach to be independently associated with a reduced risk of AR≥ 2 (HR=0.44, [0.26-0.75], $p<0.0001$). Among patients without AR≥ 2, 1-year mortality was nearly identical whether treated through NF or Femoral approach (13.1%, vs 11.1%, p=NS). Among patients with AR≥ 2, 1-year mortality was two-fold higher in patients treated through NF compared to Femoral approach (42.7% vs 22.1%, $p=0.01$).
Conclusions: Our results demonstrate that a better axial control of device delivery allowed by NF approaches can reduce the risk of AR after TAVI. When implantation without AR≥ 2 can be achieved, long-term survival of patients treated via NF approaches is excellent. Finally, our results suggest that in high-grade severity patients treated via NF approaches, the incidence of peri-valvular AR is associated with a prohibitive mortality rate.

TCT-828

Standardized Segmentation of Aortic Annulus Across Multi-modalities Imaging Technics. Location of annulus calcification Predicts Periprosthetical Leaks post TAVI

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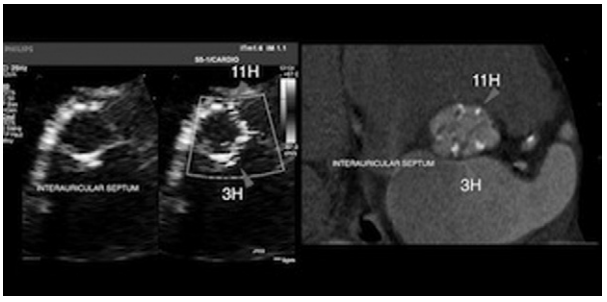
Background: Since TAVI involves multimodality imaging (TTE, TOE, CT or MRI) to screen patients it is highly important to standardize the rapport and the analysis of the AO valve and annulus, especially in periprosthetical leaks.
Methods: Cardiac CT performed both before and after TAVI (non-contrast) and then compared to the echo(short axis) post TAVI. Ao Annulus was divided in 12 clockwise quadrants. 6 o'clock was defined as the insertion of interatrial septum to aortic annulus, which is easily identified in TTE, CT or TOE.
Results: Nb of patients with Leaks >grade 2 : 17% (8/40) located at 3h (70%), 6h(14%), 9h(14%), 12h (40%) Calcic score of aortic valve: ¼ 23%, 2/4 35%, ¾ 35%, 4/4 7% (calcic score: 1/4<600,2/4,3/4: 1000-1500, 4/4: >1500) Calcium location correlate to periprosthetical leaks: p coef correlation 0.90 Nb of patients with two or more periprothetical leaks : 25% (10/40) Positive correlation between the thickness of the protrusive calcic annular apposition and the grade of the leaks(p coef correlation 0.95). All patients with leaks grade >2 have calcic annular thickness >2mm. Calc of AO cusp is common however, it is not predictive of a location of the leak. 40% (3/7) of patients with leaks grade >2 have calcic score less than 2/4.
Conclusions: Standardized AO annulus segmentation should be adopted to describe AO annular calcification and periprosthetical leaks. Annulus calcic location correlate to periprosthetical leaks and the calcic protrusion to the degree of the leaks.



TCT-829

Invasive Systemic Arterial Hemodynamics in Low Gradient Severe Aortic Stenosis with Preserved Ejection Fraction

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Background: The pathophysiologic mechanism for aortic stenosis (AS) with low flow low gradient (LG) and preserved left ventricular (LV) ejection fraction is poorly understood. It has been proposed that abnormalities of the peripheral circulation are a major contributor to this syndrome.
Methods: We therefore examined invasive measures of afterload including effective arterial elastance (Ea), aortic compliance (Ca) and systemic vascular resistance (SVR) by right and left heart catheterization in patients with the syndrome of LG (<40 mmHg) severe (aortic valve area<1 cm^2 or <0.6 cm^2/m^2) AS with preserved ejection fraction (>50%) and compared them to patients with severe AS and high gradient (HG) ($\geq$40 mmHg).
Results: Patients with LG severe AS (n=5) and HG severe AS (n=11) were similar with respect to age, sex, body mass index, symptoms and ejection fraction (Table). Patients in both groups had similar AVA and LV mass index, but the LG group had reduced stroke

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